

Serial No. 09/252,828

Attorney Docket No. 024754/0114

Page 11, last line, please delete "SEQ ID NO: 1" and insert --SEQ ID NO: 2-- thereof.
Page 14, line 15-16, please delete "SEQ ID NO: 1" and insert --SEQ ID NO: 2-- thereof.
Page 14, line 18-19, please delete "SEQ ID NO: 1" and insert --SEQ ID NO: 2-- thereof.
Page 14, line 32, please delete "SEQ ID NO: 1" and insert --SEQ ID NO: 2-- thereof.
Page 15, line 8, please delete "SEQ ID NO: 1" and insert --SEQ ID NO: 2-- thereof.
Page 15, line 15, please delete "SEQ ID NO: 1" and insert --SEQ ID NO: 2-- thereof.

IN THE CLAIMS

Please delete Claim 39 without prejudice or disclaimer.

27. (Once Amended) A purified recombinant glycopolypeptide having between 41 and 400 amino acids and having an active portion that can bind human spermatozoa at least 10 times as strong as an equivalent molar amount of mouse ZP3, wherein the active portion comprises an amino acid sequence that is more than 54% homologous with SEQ ID NO: [1] 2 and has a predicted O-glycosylation site at a serine that corresponds to position 344 of the human ZP3 sequence.

28. (Twice Amended) A glycopolypeptide according to claim 27, comprising a sequence from position 310 to position 345 of SEQ ID NO: [1] 2 wherein at least one amino acid at a position selected from the group consisting of: (a)310; (b)320; (c)323; (d)326; (e)328; (f)329; (g)332; (h)334; (i)335; (j)337; (k)339; (l)341; (m)342 and (n)345 is substituted while preserving the human-species specific glycosylation pattern of the glycopolypeptide.

29. (Once Amended) The glycopolypeptide according to claim 27, wherein the amino acid sequence of the active portion is more than 75% identical with SEQ ID NO: [1] 2.

34. (Once Amended) A purified recombinant glycopolypeptide of 65kd to 100kd that comprises 40% to 60% carbohydrate by weight and that can bind human spermatozoa at least 10 times as strong as an equivalent molar amount of mouse ZP3, wherein the glycopolypeptide is obtainable by a process comprising the steps of:

- (a) transducing a cell from a human ovarian cell line with a polynucleotide that encodes a polypeptide comprising a sequence that is more than 54% homologous with SEQ ID NO: [1] 2;
- (b) establishing a stable-transfected cell culture for producing the glycopolypeptide;
- and
- (c) isolating the glycopolypeptide from the cell culture.

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36. (Twice Amended) The purified glycopolypeptide of claim 34, wherein the polynucleotide of step (a) encodes a polypeptide comprising a sequence from position 310 to position 345 of SEQ ID NO: [1] 2 wherein at least one amino acid has been altered while preserving the human-species specific glycosylation of the glycopolypeptide.

37. (Twice Amended) A purified glycopolypeptide that comprises carbohydrate and that can bind human spermatozoa at least 10 times as strong as an equivalent molar amount of mouse ZP3, wherein the amino acid sequence of the glycopolypeptide comprises a sequence from position 310 to position 345 of SEQ ID NO: [1] 2 wherein at least one amino acid has been altered while preserving the human-species specific glycosylation of the glycopolypeptide.

38. (Twice Amended) A glycopolypeptide that can bind human spermatozoa at least 10 times as strong as an equivalent molar amount of mouse ZP3 wherein the polypeptide portion of the glycopolypeptide is smaller than 25kd and includes a core region having a sequence shown in SEQ ID NO: [1] 2 wherein at least one amino acid has been altered while preserving the human-species specific glycosylation of the glycopolypeptide.

40. (Once Amended) A glycopolypeptide having a polypeptide portion that is smaller than 10kd and which can bind human spermatozoa with greater affinity than mouse spermatozoa, wherein the glycoprotein has a sequence comprising sequence position numbers 337 to 348 of SEQ ID NO: [1] 2.

44. (Once Amended) A purified glycopolypeptide of 65kd to 100kd that can bind human spermatozoa at a glycopolypeptide concentration below 1 µg/ml and induce an acrosome reaction within one hour upon binding, wherein said glycopolypeptide comprises an amino acid sequence that is more than 54% homologous to the following sequence:

SerTrpPheProValGlnGlyProAlaAspIleCysGlnCysCysAsnLysGlyAspCys
GlyThrProSerHisSerArgArg[Glu]GlnProHisValMetSerGlnTrpSerArg
SerValSer.

47. (Once Amended) The glycoprotein of claim 45, wherein the glycoprotein comprises the following amino acid sequence:

SerTrpPheProValGlnGlyProAlaAspIleCysGlnCysCysAsnLysGlyAspCysGlyThrPro
SerHisSerArgArg[Glu]GlnProHisValMetSerGlnTrpSerArgSerValSer.